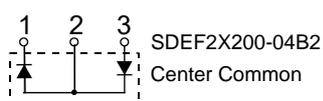
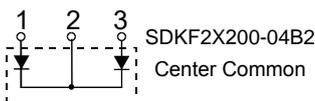
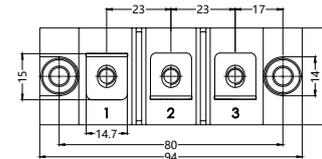
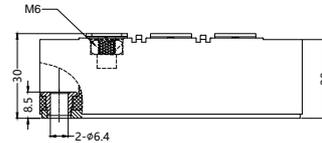


# SDKF(SDAF/SDEF)2x200-04(06)B1(2)

## Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules



Dimensions in mm (1mm=0.0394")



	VRSM V	VRRM V
SDKF2x200-04B1	400	400
SDKF2x200-06B1	600	600
SDKF2x200-04B2	400	400
SDKF2x200-06B2	600	600

	VRSM V	VRRM V
SDAF2x200-04B1	400	400
SDAF2x200-06B1	600	600
SDAF2x200-04B2	400	400
SDAF2x200-06B2	600	600

	VRSM V	VRRM V
SDEF2x200-04B1	400	400
SDEF2x200-06B1	600	600
SDEF2x200-04B2	400	400
SDEF2x200-06B2	600	600

Symbol	Test Conditions	Maximum Ratings	Unit
I <sub>FRMS</sub>	T <sub>C</sub> =75°C	284	A
I <sub>FAVM</sub>	T <sub>C</sub> =75°C; rectangular, d=0.5	2 x 200	
I <sub>FRM</sub>	t <sub>p</sub> <10us; rep. rating, pulse width limited by T <sub>VJM</sub>	TBD	
I <sub>FSM</sub>	T <sub>VJ</sub> =45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	A
	T <sub>VJ</sub> =150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	
I <sup>2</sup> t	T <sub>VJ</sub> =45°C	t=10ms (50Hz), sine t=8.3ms (60Hz), sine	A <sup>2</sup> s
	T <sub>VJ</sub> =150°C	t=10ms(50Hz), sine t=8.3ms(60Hz), sine	
T <sub>VJ</sub> T <sub>stg</sub> T <sub>Hmax</sub>		-40...+150 -40...+125 110	°C
P <sub>tot</sub>	T <sub>case</sub> =25°C	690	W
V <sub>ISOL</sub>	50/60Hz, RMS t=1min I <sub>ISOL</sub> ≤1mA t=1s	2500 3000	V~
M <sub>d</sub>	Mounting torque (M6) Terminal connection torque (M6)	2.50-4/22-35 2.50-4/22-35	Nm/lb.in.
ds	Creeping distance on surface	12.7	mm
d <sub>A</sub>	Strike distance through air	9.6	mm
a	Maximum allowable acceleration	50	m/s <sup>2</sup>
Weight		108	g



# SDKF(SDAF/SDEF)2x200-04(06)B1(2)

## Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules

Symbol	Test Conditions	Characteristic Values		Unit
		typ.	max.	
I <sub>R</sub>	T <sub>VJ</sub> =25°C; V <sub>R</sub> =V <sub>R<sub>RM</sub></sub>		0.5	mA
	T <sub>VJ</sub> =25°C; V <sub>R</sub> =0.8·V <sub>R<sub>RM</sub></sub>		0.2	
	T <sub>VJ</sub> =125°C; V <sub>R</sub> =0.8·V <sub>R<sub>RM</sub></sub>		1	
V <sub>F</sub>	I <sub>F</sub> =200A; T <sub>VJ</sub> =125°C		1.40	V
	T <sub>VJ</sub> =25°C		2.00	
	I <sub>F</sub> =400A; T <sub>VJ</sub> =125°C		1.80	
	T <sub>VJ</sub> =25°C		2.30	
V <sub>TO</sub>	For power-loss calculations only		0.99	V
r <sub>T</sub>	T <sub>VJ</sub> =125°C		2.90	mΩ
R <sub>thJH</sub> R <sub>thJC</sub>	DC current DC current		0.290 0.140	K/W
t <sub>rr</sub>	I <sub>F</sub> =1A; T <sub>VJ</sub> =25°C -di/dt=200A/us	40	50	ns
	I <sub>F</sub> =200A; T <sub>VJ</sub> =100°C -di/dt=200A/us	100	130	
I <sub>RM</sub>	V <sub>R</sub> =300V; T <sub>VJ</sub> =25°C		55	A
	-di/dt=200A/us; T <sub>VJ</sub> =100°C		83	A

### FEATURES

- \* International standard package with Copper baseplate
- \* Planar passivated chips
- \* Short recovery time
- \* Low switching losses
- \* Soft recovery behaviour
- \* Isolation voltage 3600 V~
- \* UL File NO.E310749
- \* RoHS compliant

### APPLICATIONS

- \* Antiparallel diode for high frequency switching devices
- \* Free wheeling diode in converters and motor control circuits
- \* Inductive heating and melting
- \* Uninterruptible power supplies (UPS)
- \* Ultrasonic cleaners and welders

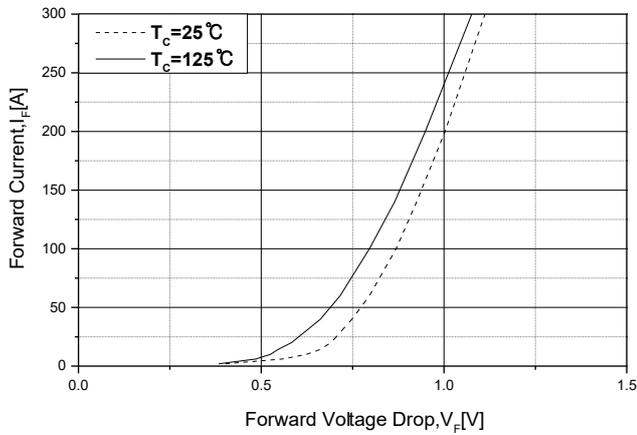
### ADVANTAGES

- \* High reliability circuit operation
- \* Low voltage peaks for reduced protection circuits
- \* Low noise switching
- \* Low losses

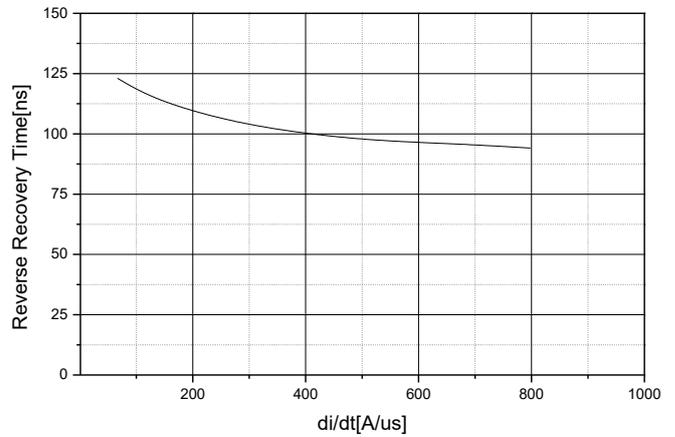


# SDKF(SDAF/SDEF)2x200-04(06)B1(2)

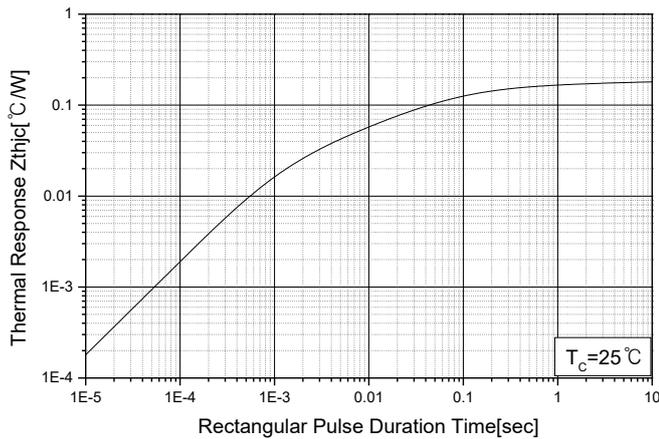
## Soft Recovery Behaviour Ultra Fast Recovery Epitaxial Diode Modules



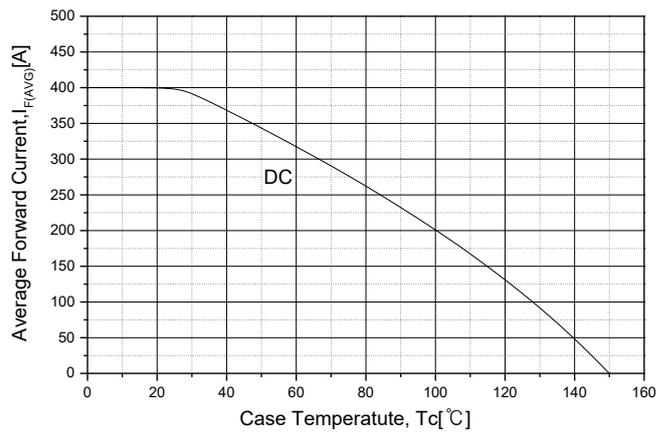
**Fig.1 Typical Forward Voltage Drop vs. Instantaneous Forward Current**



**Fig.2 Typical Reverse Recovery Time Vs.  $-di/dt$**



**Fig.3 Transient Thermal Impedance ( $Z_{thjc}$ ) Characteristics**



**Fig.4 Forward Current Derating Curve**